THE SYSTEM AND METHOD FOR STORING AND TRANSFERRING A FILE DATA USING INTERNET MESSENGER

Technical Field

The present invention relates to technology for storing and transferring files using a n Internet messenger. More particularly, the present invention relates to a system for stori ng and transferring files using an Internet messenger wherein the storage of files by a messe nger user and the transfer of files among messenger users can be easily made through a file storage unit for performing a messenger function, which is separately connected to a messe nger server.

Background Art

Internet messenger services, which are one of a variety of services provided by the I nternet that has become a part of daily life, allow users, who access messenger servers, to e xchange short messages or files in real time, unlike e-mail services.

In the above, messages are transferred among messenger users through a messenger server. Each of the messenger users can receive a message from other users through the messenger server while accessing the messenger server and also transmit messages to other users through the messenger server.

However, in case of transferring files, significantly greater capacity is needed comp ared to transferring messages. If a file is transferred via a messenger server like a messag e, it leads to excessive overload in the server. Furthermore, unlike messages, a file is tran sferred in a one to one relationship. Therefore, as shown in Fig. 1, a file is transferred usi ng the P2P method which is a peer-to-peer file exchange method without passing through a messenger server 11.

The process of exchanging files among messenger users using the P2P method in a conventional messenger system shown in Fig. 1 will now be briefly described.

Referring to Fig. 2, while a conventional messenger system 1 operates normally (S2 1), the messenger server 11 determines whether a file can be transferred to messenger client

2 13 according to a request from a user of messenger client 1 12 (S22).

If it is determined that the transfer of a file is possible, the file is successfully transf erred from the user of messenger client 1 12 to messenger client 2 13 (S23). Meanwhile, i f the transfer of a file is not possible, the transfer of the file from the user of messenger clie nt 1 12 to messenger client 2 13 is unsuccessful (S24).

More specifically, a case where the transfer of a file is possible among messenger cl ients in a conventional messenger system 1 is shown in Fig. 1. In this case, steps S22 and S23 in which the file is successfully transferred from the user of messenger client 1 12 to th e user of messenger client 2 13 are as follows.

① The user of messenger client 1 12 informs the messenger server 11 of the fact th at he or she wants to transfer a file to the user of messenger client 2 13.

② The messenger server 11 notifies the user of messenger client 2 13 of the fact th at the user of messenger client 1 12 tries to transfer the file and asks the user of messenger client 2 13 whether to receive the file.

③ The user of messenger client 2 13 informs the messenger server 11 of the fact th at he or she will accept the receipt of the file.

④ The messenger server 11 transfers an IP address as Internet positional informati on of the user of messenger client 2 13 to the user of messenger client 1 12 so that the user of messenger client 1 12 and the user of messenger client 2 13 can exchange the file in a sta te where they are directly connected to each other. In this case, it is possible to transfer th e Internet IP address of the user of messenger client 1 12 to the user of messenger client 2 1 3 according to the format that a messenger is implemented.

⑤ The transfer of the file between the user of messenger client 1 12 and the user of messenger client 2 13 is successful through the Internet IP address informed by the messe nger server 11 with the users directly connected to each other.

Meanwhile, there is a case where the transfer of a file is impossible between users o f the messenger clients in the conventional messenger system 1 shown in Fig. 1. In this ca se, steps S22 and S24 in which the transfer of a file from the user of messenger client 1 12 t o the user of messenger client 2 13 is unsuccessful will now be described by taking Figs. 3 to 5 as examples.

First, there is a case where both users of messenger client 1 12 and messenger client 2 13 employ a private Internet network, as shown in Fig. 3.

If messenger client 1 12 or messenger client 2 13 uses a private Internet network rather than a public Internet network, Internet positional information which is transferred from messenger server 11 to messenger client 1 12 or messenger client 2 13 is the IP address of a private network gateway 121 of messenger client 1 located in a relevant private network or the IP address of a private network gateway 131 of messenger client 2 located in a private network. Thus, access is not made between the users of messenger client 1 12 and messenger client 2 13. Accordingly, the file transfer file fails.

If messenger client 1 12 or 2 13 employs a private Internet network, a conventional messenger system 1 causes the file transfer direction to be reverse for the purpose of the successful transfer of a file. In other words, whoever is the file sender, a user of the private Internet network accesses a user of the public Internet network and transfers the file.

If both users of messenger clients 1 12 and 2 13 employ a private Internet network, however, it is impossible to get a correct IP address of a counterpart user although one user tries to transfer a file. The transfer of the file is thus unsuccessful.

Such a case where both users of messenger client 1 12 and messenger client 2 13 employ a private Internet network will now be described. The same portions as steps (① to ③) in the example that explains the case where the transfer of the file is successful will not be described.

④ The messenger server 11 can transfer an IP address as Internet positional information on a private network gateway 131 of messenger client 2 located in a private network to the user of messenger client 1 12 or the IP address of a private network gateway 121 of messenger client 1 located in a private network to the user of messenger client 2 13.

⑤ The user of messenger client 1 12 and the user of messenger client 2 13 are not directly connected to each other, but connected only to the respective private network gateways 121 and 131. Therefore, the transfer of the file is unsuccessful.

Secondly, as shown in Fig. 4, there is a case where the user of messenger client 1 12 employs a private Internet network and a firewall 132 is installed in messenger client 2 13

Messenger server 11 transmits the IP address of messenger client 2 13 to messenger client 1 12 for the successful transfer of a file. However, the firewall 132 prevents the us er of messenger client 1 12 from accessing the user of messenger client 2 13. Thus the tra nsfer of the file fails.

On the contrary, if the user of messenger client 2 13 accesses the user of messenger client 1 12, the user of messenger client 2 13 can access messenger client 1 12 unless the fir ewall 132 shuts its outgoing port.

Therefore, in case where a firewall 132 is installed, the user of messenger client 2 1 3 can transfer a file to messenger client 1 12, but not the reverse. Furthermore, even in thi s case, in the event that messenger client 1 12 is a private Internet network, the transfer of t he file is completely impossible and thus fails.

The case where the user of messenger client 1 12 employs a private Internet networ k and a firewall 132 is installed in messenger client 2 13 will now be described. The same portions as steps (① to ③) in the example that explains the case where the transfer of a fil e is successful will not be described.

④ The messenger server 11 transfers an IP address as Internet positional informati on of messenger client 2 13 to the user of messenger client 1 12.

⑤ The user of messenger client 1 12 and the user of messenger client 2 13 are not directly connected to each other but are connected only to the private network gateway 121 of messenger client 1 located in a private network, or are blocked by means of a firewall 13 2 of messenger client 2 13. Therefore, the transfer of the file is unsuccessful.

Thirdly, as shown in Fig. 5, there is a case where the user of messenger client 2 13 i s absent.

In the event that a file is transmitted to a user of messenger client 2 13 who is a file recipient using a messenger, it is necessarily required that approval be obtained from a user of messenger client 2 13 who is a file recipient in order to prevent the file from being tran sferred only with the intention of the user of messenger client 1 12 who is the file sender. Thus, the transfer of the file is actually successful only when the user of messenger client 1 12 who is the file sender requests the transfer of the file and the user of messenger client 2 13 who is the file recipient accepts the receipt of the file.

In the event that the user of messenger client 2 13 who is the file recipient is absent, it is impossible to accept the receipt of a file. The user of messenger client 1 12 has to wait until the user of messenger client 2 13 reaches a state where the user can accept the receipt of the file.

The case where a user of a counterpart messenger client 2 13 is absent will now be described. The same portions as the steps (① and ②) in the example that explains the case where the transfer of the file is successful will not be described.

③ The user of messenger client 2 13, who is absent, cannot notify the messenger server 11 of the fact that he or she approves the receipt of the file.

④ The messenger server 11 informs the user of messenger client 1 12 of the fact that the user of messenger client 2 13 cannot approve the receipt of the file.

⑤ Since the user of messenger client 1 12 and the user of messenger client 2 13 are not directly connected to each other, the transfer of the file fails.

It is the same as the above case. That is, as shown in Fig. 6, even though the user of messenger client 2 13 returns to his or her position, if the user of messenger client 1 12 is not still seated, it amounts to a result that the user of messenger client 1 12 for beginning transferring the file is absent. Therefore, the transfer of a file is not accomplished.

That is, even in a case where the users of messenger client 1 12 and messenger client 2 13 are in an on-line state, the transfer of a file will fail if either of two users is absent.

As such, the reason that the file is not directly transferred from the user of messenger client 1 12 to the user of messenger client 2 13 since the transfer of a file between the messenger clients in the conventional messenger system 1 shown in Fig. 1 cannot be made is due to the P2P method in which users of messenger client 1 12 and messenger client 2 13 should solve their own problems by themselves without relying on the messenger server 11 when all the files are transmitted on the messenger system.

A server operator of a conventional messenger system can provide a stabilized service while reducing overload through this P2P method. If users of many messenger clients are blocked by private IP addresses and firewalls as in the prior art, however, there occurs a case where files cannot be transferred.

In addition, a user of a counterpart messenger client must be always present on-line.

Thus, a file cannot be transmitted to users of a messenger client who are absent. Due to an operational situation of such a messenger system, it is impossible to store a file of a mes senger user.

Disclosure of Invention

The present invention is conceived to solve the aforementioned problems in the prio r art. An object of the present invention is to provide a system and method for storing and transmitting files using an Internet messenger, wherein a file of a messenger user is stored in a messenger function-performing file storage unit, which is separately connected to a m essenger server, or the file storage unit is used as a relay point where a file is transferred bet ween the messenger users, by utilizing P2P transfer technology of a conventional messenge r system without additional log-on or installation of an additional program.

According to an aspect of the present invention for achieving the object, there is pro vided a messenger system for storing and transferring a file using an Internet messenger, w hich includes a messenger server and a plurality of messenger clients connected to the mess enger server for exchanging a message or file with the messenger server. The messenger s ystem of the present invention comprises a messenger function-performing file storage unit connected to the messenger server, wherein the messenger function-performing file storag e unit includes a messenger function-performing unit for receiving a file, which will be tran sferred from a user of a messenger client serving as a sender to a user of a messenger client serving as a recipient among the plurality of the messenger clients, and transmitting the rec eived file to the user of the messenger client serving as the recipient; a file storage unit for s toring the file received through the messenger function-performing unit therein; and a contr ol unit for controlling storing the file received through the messenger function-performing unit in the file storage unit and transferring the file stored in the file storage unit to a user of a messenger client serving as a recipient when the user of the messenger client serving as t he recipient accepts the receipt of the file.

According to another aspect of the present invention, there is provided a messenger system for storing and transferring a file using an Internet messenger, which includes a messenger server and a plurality of messenger clients connected to the messenger server for exchangin

g a message or file with the messenger server. The messenger system of the present inven tion comprises a messenger function-performing file storage unit connected to the messeng er server, wherein the messenger function-performing file storage unit includes a messenge r function-performing unit for receiving a file that a user of any one of the plurality of the messenger clients wishes to store and transmitting the received file to a user of the messeng er client; a file storage unit for storing the file received through the messenger function-perf orming unit therein; and a control unit for controlling storing the file received through the messenger function-performing unit in the file storage unit and transferring the file stored i n the file storage unit to a user of the messenger client through the messenger function-perf orming unit when there is a request from the user of the messenger client.

Preferably, a firewall is installed between the messenger server and the messenger c lient serving as the sender or between the messenger server and the messenger client servin g as the recipient, and a web interface for connecting the messenger client and the messeng er function-performing file storage unit through the firewall is further provided between the firewall and the messenger function-performing file storage unit, whereby the user of the messenger client can receive or store the file that is being stored in the file storage unit usin g a web browser.

The file storage unit may be a storage system provided on the Internet.

More preferably, at least one of the plurality of the messenger clients has a plug-in program installed, and the messenger function-performing file storage unit further compris es a file transmission/reception-executing unit that allows the messenger client having the p lug-in program installed in and the messenger function-performing file storage unit to exch ange a file directly through the plug-in program.

According to a further aspect of the present invention, there is provided a method fo r storing/transferring a file in/to a messenger system which includes a messenger server, a p lurality of transmission/reception messenger clients connected to the messenger server for e xchanging a message or file with the messenger server, and a messenger function-performi ng file storage unit connected to the messenger server and having a messenger function and a file storage function. The method of the present invention comprises the steps of allow ing the messenger function-performing file storage unit to receive a file, which is to be tran

sferred from a user of a messenger client serving as a sender to a user of a messenger client serving as a recipient among the plurality of the messenger clients, through the messenger function and then to store the file therein through the file storage function; and transferring a file stored in the messenger function-performing file storage unit to a user of a messenger client serving as a recipient through the messenger function when the user of the messenger client serving as the recipient accepts the receipt of the file.

According to a still further aspect of the present invention, there is provided a method for storing/transferring a file in/to a messenger system which includes a messenger server, a plurality of transmission/reception messenger clients connected to the messenger server for exchanging a message or file with the messenger server, and a messenger function-performing file storage unit connected to the messenger server and having a messenger function and a file storage function. The method of the present invention comprises the steps of allowing the messenger function-performing file storage unit to receive a file that will be stored by a user of any one of the plurality of the messenger clients through the messenger function and then to store the file therein through the file storage function; and transferring a file stored in the messenger function-performing file storage unit to a user of a messenger client through the messenger function when there is a request from the user of the messenger client.

Brief Description of Drawings

The above and other objects, features and advantages of the present invention will become apparent from the following description of preferred embodiments given in conjunction with the accompanying drawings, in which:

Fig. 1 is a block diagram showing a system for transferring files using a conventional Internet messenger;

Fig. 2 is a flowchart illustrating a simplified operating process of the messenger system shown in Fig. 1;

Figs. 3 to 6 are block diagrams illustrating cases where the transfer of a file is unsuccessful in the operating process of the messenger system shown in Fig. 2;

Fig. 7 is a flowchart illustrating an operating process of a messenger system for stor

ing and transferring a file using an Internet messenger according to an embodiment of the p resent invention;

Figs. 8 to 10 and Fig. 15 are block diagrams showing a system for storing and transf erring a file using an Internet messenger according to an embodiment of the present inventi on;

Figs. 11 to 14 are exemplary screens showing the operating process of the messenge r system shown in Figs. 8 to 10; and

Fig. 16 is an exemplary screen that is shown by the operation of a plug-in program i nstalled in a messenger client in the messenger system shown in Fig. 15.

Best Mode for Carrying Out the Invention

Hereinafter, preferred embodiments of the present invention will be described in det ail with reference to the accompanying drawings.

Fig. 7 is a flowchart illustrating the operating process of a messenger system for sto ring and transferring files using an Internet messenger according to an embodiment of the p resent invention. Figs. 8 to 10 and Fig. 15 are block diagrams showing a system for storin g and transferring files using an Internet messenger according to an embodiment of the pres ent invention. Figs. 11 to 14 are exemplary screens showing the operating process of the messenger system shown in Figs. 8 to 10.

The operating process of the messenger system for storing and transferring files usi ng an Internet messenger according to an embodiment of the present invention will now be briefly described. Referring to Fig. 7, while the messenger system operates normally (S71), a messenger server 11 determines whether a file can be transferred to a messenger client 2 13 according to the request from a user of messenger client 1 12 (S72).

If it is determined that the transfer of the file is possible, the file is transferred direct ly from the user of messenger client 1 12 to messenger client 2 13 (S73). Meanwhile, if th e transfer of a file is impossible, the file is transferred indirectly from the user of messenger client 1 12 to messenger client 2 13 through a messenger function-performing file storage unit, which will be described hereinafter (S74).

In this embodiment, if a file is not transferred directly between users of conventiona

l messenger clients, a case where a file is transferred indirectly between the users through t he messenger function-performing file storage unit will be described.

Referring to Fig. 8, a system for storing and transferring files using an Internet mess enger 10 according to an embodiment of the present invention includes a messenger server 11, a messenger client 1 12 connected to the messenger server 11 through a private network gateway 121 and located in a private network, a messenger client 2 13 connected to the m essenger server 11 through a private network gateway 131 and located in a private network, and a messenger function-performing file storage unit 14 connected to the messenger serv er 11 and located in a public network.

The messenger server 11 informs users of messenger clients who previously register ed IP addresses as Internet positional information of the users, so that users who access the server 11 using corresponding IP addresses can exchange files directly.

Messenger clients 1 12 and 2 13 access the messenger server 11 so that registered u sers can exchange files. In an embodiment of the present invention, messenger clients 1 1 2 and 2 13 located in a private network are connected to the messenger server 11 located in the public Internet network via private network gateways 121 and 131.

In the above, the IP addresses that are transferred to messenger clients 1 12 and 2 13 by the messenger server 11 are IP addresses of the private network gateways 121 and 131 of messenger clients 1 and 2 located in corresponding private networks. Thus, unlike a pu blic Internet network having a unique address over the whole Internet, a private Internet net work having an address that is personally used does not have a unique Internet address. It is thus difficult to know the correct position of a counterpart. Since access is made betw een the users of messenger clients 1 12 and 2 13 located in private networks, it is impossibl e to transfer the file.

In order to solve this problem, in the messenger system 10 according to an embodi ment of the present invention, the messenger function-performing file storage unit 14 locat ed in the public Internet network is connected to the messenger server 11.

Therefore, the relationship between the user of messenger client 1 12 and the messe nger function-performing file storage unit 14 results in a private Internet network versus a p ublic Internet network. The relationship between the user of messenger client 2 13 and th

e messenger function-performing file storage unit 14 also results in a public Internet networ k versus a private Internet network. It is thus possible to transfer a file from the user of m essenger client 1 12 to the user of messenger client 2 13 through the messenger function-pe rforming file storage unit 14.

The messenger function-performing file storage unit 14 includes a messenger functi on-performing unit 141, a file storage unit 142 and a control unit 143, in order to transfer a file from messenger client 1 12 to messenger client 2 13 and store a file that will be transfer red from messenger client 1 12 to messenger client 2 13.

If a file is transferred from messenger client 1 12 to messenger client 2 13, the mess enger function-performing unit 141 receives a file from the user of messenger client 1 12 se rving as the sender through a messenger function in the private Internet network versus pub lic Internet network relationship and transmits the received file to the user of messenger cli ent 2 13 serving as the recipient through the messenger function in the public Internet netw ork versus private Internet network relationship.

The file storage unit 142 stores the file received from the user of messenger client 1 12 serving as the sender through the messenger function-performing unit 141 therein by m eans of the file storage function.

The control unit 143 controls the file received through the messenger function-perfo rming unit 141 to be stored through file storage function of the file storage unit 142. Furt hermore, if there is acceptance from the user of messenger client 2 13 serving as the recipie nt, the control unit 143 controls the file that is being stored in the file storage unit 142 to be transferred to the user of messenger client 2 13 serving as the recipient through the messe nger function of the messenger function-performing unit 141.

In the messenger system 10 constructed above according to an embodiment of the p resent invention, the process of transferring the file from messenger client 1 12 to messeng er client 2 13 will now be described.

① The user of messenger client 1 12 informs the messenger server 11 of the fact th at he or she wants to transfer a file to the messenger function-performing file storage unit 1 4.

② The messenger server 11 notifies the messenger function-performing file storag

e unit 14 of the fact that the user of messenger client 1 12 tries to send the file and asks the messenger function-performing file storage unit 14 whether to receive the file.

③ The messenger function-performing file storage unit 14 informs the messenger s erver 11 of the fact that it will accept the receipt of the file.

④ The messenger server 11 transfers an IP address of the messenger function-perf orming file storage unit 14 located in the public Internet network to the user of messenger c lient 1 12 located in the private Internet network so that the user of messenger client 1 12 a nd the messenger function-performing file storage unit 14 can exchange the file in a state w here they are directly connected to each other.

⑤ The user of messenger client 1 12 completes the transfer of the file to the messe nger function-performing file storage unit 14 in a state where messenger client 1 12 is conn ected through the IP address of the messenger function-performing file storage unit 14 infor med by the messenger server 14. The fact that the file will be transferred to the user of m essenger client 2 13 is transferred from the user of messenger client 1 12 to the user of mes senger client 2 13 through the messenger server 11, or directly to the messenger function-p erforming file storage unit 14.

⑥ The messenger function-performing file storage unit 14 informs the messenger s erver 11 of the fact that it tries to transfer the file, which is received from the user of messe nger client 1 12 through the messenger server 11 or directly, to the user of messenger client 2 13.

⑦ The messenger server 11 notifies the user of messenger client 2 13 of the fact th at the messenger function-performing file storage unit 14 tries to transfer the file received f rom the user of messenger client 1 12 and asks the user of messenger client 2 13 whether to receive the file.

⑧ The user of messenger client 2 13 informs the messenger server 11 of the fact th at he or she approves the receipt of the file.

⑨ The messenger server 11 transfers the IP address of the messenger function-perf orming file storage unit 14 located in the public Internet network to the user of messenger c lient 2 13 located in the private Internet network so that the messenger function-performing file storage unit 14 and the user of messenger client 2 13 can exchange the file in a state w

here they are directly connected to each other.

⑩ The user of messenger client 2 13 receives the file sent by messenger client 1 12 from the messenger function-performing file storage unit 14 in a state where messenger cl ient 2 13 is connected through the IP address of the messenger function-performing file stor age unit 14 informed by the messenger server 14.

Referring to Fig. 9, a system for storing and transferring the a file using the Internet messenger 10' according to another embodiment of the present invention includes a messe nger server 11, a messenger client 1 12 connected to the messenger server 11 through a priv ate network gateway 121 and located in a private network, a messenger client 2 13 connect ed to the messenger server 11 through a firewall 132, a messenger function-performing file storage unit 14 connected to the messenger server 11, and a web server 15 serving as a web interface for connecting the firewall 132 and the messenger function-performing file stora ge unit 14. In the above, messenger client 1 12 can be connected directly to the messenge r server 11 through a public Internet network.

In the messenger system 10' having the firewall installed in messenger client 2 13 a ccording to another embodiment of the present invention, explanation will be given on only portions such as the firewall 132 and the web server 15 except for the same components a s those in the messenger system 10 according to an embodiment of the present invention.

The messenger server 11 transfers an IP address of messenger client 2 13 to messen ger client 1 12 for the successful transfer of a file. Due to the firewall 132 that is used to prohibit unnecessary external access when the user of messenger client 1 12 accesses messe nger client 2 13 or block unnecessary access to external websites from the inside, the file ca nnot be transferred to the user of messenger client 2 13 or the file of messenger client 2 13 cannot be received.

Therefore, like the messenger system 10 according to an embodiment of the present invention, even though the messenger function-performing file storage unit 14 is connecte d to the messenger server 11, the file cannot be transferred between the users of the messen ger clients due to the firewall 132. However, this can be overcome by additionally connec ting the web server 15 to the messenger function-performing file storage unit 14.

In other words, in case where the web server 15 using No. 80 port being a port for c

ommon web transmission is connected to the firewall 132 and the messenger function-perf orming file storage unit 14, access to all websites is impossible if the firewall 132 blocks th e port. In this case, the user of messenger client 2 13 may transmit or receive a file throug h the web server 15 by using the fact that the firewall 132 opens the port.

The file storage unit 142 is a portion that is commonly used by the messenger functi on-performing file storage unit 14 and the web server 15. If the user of messenger client 1 12 sends a file using the messenger function, the file is stored in the file storage unit 142 t hrough the file storage function of the messenger function-performing file storage unit 14. If the user of messenger client 2 13 transmits the file through a web, the file is stored in th e file storage unit 142 through the web server 15.

In the above, the user of messenger client 2 13 inputs the URL (Uniform Resource Locator) of the web server 15, which has been previously received from the messenger fun ction-performing file storage unit 14 through the messenger server 11, to physically access the web server 15, and then clicks on a file region in a web page displayed on a web brows er to receive a file that is being stored in the file storage unit 142 or store the file.

The control unit 143 controls the user of messenger client 2 13 to receive the file or store the file through the web server 15.

The process wherein the file is transferred from messenger client 1 12 to messenger client 2 13 in the messenger system 10' configured as above according to another embodim ent of the present invention will now be described. The same portions as the steps (① to ⑤) in the messenger system 10 according to an embodiment of the present invention will not be described.

⑥ The user of messenger client 2 13 accesses the web server 15 by inputting the U RL of the web server 15 received from the messenger function-performing file storage unit 14 through the messenger server 11 using a web browser.

⑦ The user of messenger client 2 13 receives the file that is being stored in the file storage unit 142 or stores the file by clicking on a file transfer region in a web page displa yed on the web browser.

Referring to Fig. 10, a system for storing and transferring a file using an Internet me ssenger 10" according to a further embodiment of the present invention includes a messeng

er server 11, a messenger client 1 12 connected to the messenger server 11, a messenger cli ent 2 13, and a messenger function-performing file storage unit 14 connected to the messen ger server 11.

In the above, it is necessarily required that both users of messenger clients 1 12 and 2 13 be in an on-line state for the transfer of a file. If any either of both users is absent, th e transfer of the file fails.

Therefore, if the messenger function-performing file storage unit 14 is located in th e messenger server 11 to which messenger clients 1 12 and 2 13 are connected, it will appe ar to the user of each of messenger clients 1 12 and 2 13 that a counterpart user is always o n-line in a standby state. It is thus possible to transfer the file.

The process wherein the file is transferred from messenger client 1 12 to messenger client 2 13 in the messenger system 10" constructed above according to a still further embo diment of the present invention will now be described on the premise that the transfer of th e file is impossible because messenger client 2 13 is not in a logged-on or on-line state and the user of messenger client 1 12 thus transfers the file by subscription.

① The user of messenger client 1 12 informs the messenger server 11 of the fact th at he or she will transfer a file to the messenger function-performing file storage unit 14.

② The messenger server 11 notifies the messenger function-performing file storag e unit 14 that always keeps an on-line state of the fact that the user of messenger client 1 12 tries to transfer the file and asks the messenger function-performing file storage unit 14 w hether to receive the file.

③ The messenger function-performing file storage unit 14 that always accepts the r eceipt of a file informs the messenger server 11 of the fact that it will accept the receipt of t he file.

④ The messenger server 11 transfers the IP address of the messenger function-perf orming file storage unit 14 to the user of messenger client 1 12 so that the user of messenge r client 1 12 and the messenger function-performing file storage unit 14 can exchange a file in a state where they are directly connected to each other.

⑤ The user of messenger client 1 12 transfers the file to the messenger function-pe rforming file storage unit 14 in a state where messenger client 1 12 is connected through th

e IP address of the messenger function-performing file storage unit 14, which is informed b y the messenger server 14.

This means that a file that will be sent to the messenger function-performing file sto rage unit 14 is stored and transmitted by subscription so that the user of messenger client 2 13 can transfer the file whenever the user is in a logged-on or on-line without regard to the state of the user of messenger client 1 12. In this case, the user of messenger client 1 12 al so informs indication that a corresponding file is transferred to the user of messenger client 2 13.

Thereafter, even if the user of messenger client 1 12 is logged off or is in an off-line state, it has no effect on the transfer of the file to the user of messenger client 2 13.

⑥ The messenger function-performing file storage unit 14 consistently monitors w hether the user of messenger client 2 13 is on-line or not. If the user of messenger client 2 13 is newly logged on or achieves an on-line state, the messenger function-performing file storage unit 14 perceives an on-line state from the fact that the on-line state is propagated to a plurality of users having some connection with the user of messenger client 2 13 throu gh the messenger server 11.

The messenger function-performing file storage unit 14 that perceived the on-line st ate of the user of messenger client 2 13 informs the messenger server 11 of the fact that it will try to transfer the file received from the user of messenger client 1 12 to the user of me ssenger client 2 13.

⑦ The messenger server 11 informs the user of messenger client 2 13 of the fact th at the messenger function-performing file storage unit 14 tries to transfer the file received f rom the user of messenger client 1 12 and asks the user of messenger client 2 13 whether to receive the file.

⑧ The user of messenger client 2 13 notifies the messenger server 11 of the fact th at he or she accepts the receipt of the file.

⑨ The messenger server 11 can transfer the IP address of the messenger function-p erforming file storage unit 14 to the user of messenger client 2 13 so that the messenger fun ction-performing file storage unit 14 and the user of messenger client 2 13 can exchange th e file in a state where they are directly connected to each other, or transfer the IP address of

messenger client 2 13 to the user of the messenger function-performing file storage unit 14.

⑩ The user of messenger client 2 13 receives the file sent by messenger client 1 12 from the messenger function-performing file storage unit 14 in a state where messenger client 2 13 is connected through the IP address of the messenger function-performing file storage unit 14 informed by the messenger server 14.

In the above, the user of messenger client 1 12 does not transfer the file directly, but the file is transferred indirectly through the messenger function-performing file storage unit 14. Thus, there is the uncertainty about whether the file will be transferred correctly. Although the user of messenger client 2 13 is in an on-line state, the state of the user can change to an off-line state due to variation in the state of the user of messenger client 2 13 from an external user such as error in the messenger system. Thus, it is required to monitor whether the file has been transferred correctly. In this case, the messenger function-performing file storage unit 14 can store information on whether the user of messenger client 2 13 has received the file and then transfer the file if the user of messenger client 1 12 wants.

The transfer itself of a file using a conventional messenger is accomplished on the premise that both users of messenger clients 1 12 and 2 13 are in an on-line state. It is thus impossible to store the file using the messenger. In the system for storing and transferring the file using the Internet messenger 10" according to a still further embodiment of the present invention, however, a user of any one of messenger clients can store his or her file using a messenger.

Figs. 11 to 14 are exemplary screens showing the operating process of the messenger system shown in Figs. 8 to 10. Fig. 11 is an exemplary screen showing a process of transferring a file to the messenger function-performing file storage unit through the MSN messenger. Fig. 12 is an exemplary screen showing a process of confirming a file stored in the messenger function-performing file storage unit 14. Fig. 13 is an exemplary screen showing a process in which the messenger function-performing file storage unit 14 receives the file through the MSN messenger. Fig. 14 is an exemplary screen showing a process in which a reservation for the transfer of the file is made at the messenger function-performing file storage unit 14 through MSN messenger.

Referring to Fig. 15, a system for storing and transferring files using an Internet mes senger 10''' according to a still further embodiment of the present invention comprises a me ssenger server 11, a messenger client 1 12 connected to the messenger server 11, messenge r client 2 13, and a messenger function-performing file storage unit 14 connected to the me ssenger server 11.

In the above, messenger clients 1 12 and 2 13 have plug-in programs installed.

In general, the messenger system does not have the following function. That is, w hen the transfer of a file is interrupted, the file cannot be transferred again from the interrup ted point. Furthermore, since a user command of messenger client 1 12 or 2 13, which is t ransmitted through the messenger server 11, is transmitted in a text-based form, commands for managing a file such as "View File List", "Transmit File to Other Users" are all comp osed of characters. It is thus necessary to input corresponding commands one by one.

Therefore, in the event that messenger clients 1 12 and 2 13 have plug-in programs installed and access the messenger function-performing file storage unit 14 through the plu g-in programs, the messenger function-performing file storage unit 14 and the plug-in progr am can exchange a file directly using a unique protocol without intervention of the messen ger server 11. As such, the function of successively transmitting a file, which is not suppo rted by the messenger system, can be performed. It is also easy to add a function that is n ot supported by messenger file transmission.

A file transmission/reception-executing unit 144 of the messenger function-perform ing file storage unit 14 transmits and receives a file through the plug-in programs installed i n messenger clients 1 12 and 2 13.

In other words, if a user of messenger client 1 12 sends a file to the messenger funct ion-performing file storage unit 14, the file is transmitted to the user of messenger client 2 13 separately from the messenger server 11 in a state where messenger client 1 12 is directl y connected to the file transmission/reception-executing unit 144 of the messenger function -performing file storage unit 14.

This is because additional transmission of an IP address is not required since the me ssenger server 11 transfers the IP address between the users of messenger clients 1 12 and 2 13 and a file may thus be transmitted through the plug-in program directly connected to th

e messenger function-performing file storage unit 14.

In other words, in the above messenger system, the messenger function-performing file storage unit 14 is one of users from the viewpoint of a messenger service. In this stru cture, however, the messenger function-performing file storage unit 14 becomes an indepen dent server.

Accordingly, the messenger function-performing file storage unit 14 has a function capable of transmitting an additional plug-in program and a file in addition to the transfer o f a file through the messenger function. It can be seen that the file transfer function has a dual structure of a file transfer function through the plug-in program and a file transfer func tion built in the messenger system.

Moreover, in case where messenger clients 1 12 and 2 13 have the plug-in programs installed and access the messenger function-performing file storage unit 14 through the pl ug-in programs, user commands of messenger clients 1 12 and 2 13 can be transmitted thro ugh a graphic interface. Thus, a file administration command is displayed graphically and a command related to the command is also displayed through a mouse not a keyboard or c haracters. It is thus possible to simplify the user interface.

In the messenger system shown in Fig. 15, the plug-in programs installed in the mes senger clients are located on the right side of a messenger window and a personal file wind ow that is being stored in the messenger function-performing file storage unit 14 is displaye d in the plug-in program, as shown in Fig. 16.

A difference between a case where a command is issued only through the messenge r window without a plug-in program and a case where a command is issued with the plug-i n program can be expressed into the following table.

【Table 1】

Command	Messenger Window	Plug-in
View File List	"list"	Display from the beginning
View File List-Folde r	Discriminately display folder an d file in "List"	Folder is displayed hierarchically at a glance
Upload File	Drag file and transmit it to perso	File can be located within a desired f

	nal data room user	older being the same plug-in window as the messenger window
Transmit File to Other Users	"Send ## to email_address"	Drag and drop file corresponding to plug-in window on the user list on the left side
Delete File	"del"	Select corresponding file and then delete or throw the file into waste basket
Administrate Group	"grouplist","groupadd", "groupdel"	Add or delete user using mouse

In the messenger system 10''' constructed above according to further another embodiment of the present invention, the process of transferring a file from messenger client 1 12 to messenger client 2 13 when plug-in programs are installed in messenger clients 1 12 and 2 13 will now be described on the premise that messenger client 2 13 is in an on-line state.

① A user of messenger client 1 12 informs the messenger function-performing file storage unit 14 of the fact that he or she wants to transfer a file through the plug-in program.

② The messenger function-performing file storage unit 14 notifies the plug-in program of messenger client 1 12 of the fact that it accepts the receipt of the file.

③ The plug-in program of messenger client 1 12 completes transferring the file to the messenger function-performing file storage unit 14.

④ The user of messenger client 1 12 informs the messenger function-performing file storage unit 14 of the fact that he or she tries to transfer the file to a user of messenger client 2 13 through the plug-in program.

⑤ The messenger function-performing file storage unit 14 notifies the user of messenger client 2 13 of the fact that it tries to transfer the file received from the user of messenger client 1 12 to the user of messenger client 2 13 and asks the user of messenger client 2 13 whether to receive the file.

⑥ The user of messenger client 2 13 informs the messenger function-performing fi

le storage unit 14 of the fact the he or she accepts the receipt of the file through the plug-in program.

⑦ The user of messenger client 2 13 receive the file from the messenger function-performing file storage unit 14 through the plug-in program.

The plug-in programs installed in messenger clients 1 12 and 2 13 can exchange a fi le with the messenger function-performing file storage unit 14 that is always connected to messenger clients 1 12 and 2 13 with no help from the messenger server 11. This is becau se the messenger function-performing file storage unit 14 can analyze a user's command an d operate accordingly while serving as a server of the plug-in program.

It is, however, not necessarily required that the plug-in program be installed both in messenger clients 1 12 and 2 13, as shown in Fig. 11. Although a plug-in program for exp anding a file transfer function does not exist, the file can be transferred through communica tion with the messenger server 11 through the messenger function-performing file storage u nit 14.

If a plug-in program is installed in messenger client 1 12 only, a process in which m essenger client 1 12 transfers a file to the messenger function-performing file storage unit 1 4 is the same as ① to ④. However, a process in which a file is transferred from the mes senger function-performing file storage unit 14 to messenger client 2 13 having the plug-in program not installed in is the same as the process in which the file is transferred from the messenger function-performing file storage unit 14 to messenger client 2 13, which has bee n described above.

A file storage unit 142 of the messenger function-performing file storage unit 14 ca n operate independently like a storage system provided on the Internet such as POPDESK a nd WEBHARD. In this case, users can be registered at an additional database as member s. Such a database may include a user database for storing detailed information therein su ch as the ID and password of a user who is registered as a member and a file database for st oring files sent by users.

Industrial Applicability

As described above, according to a system and method for storing and transmitting

files using an Internet messenger of the present invention, a file can be stored very conveni ently without additional log-on or installation of an additional program while using a messe nger. Therefore, the present invention has an effect that a corresponding file can be transf erred to anyone anywhere and anytime. Further, the Internet messenger serves as a messe nger file relay point. According to the present invention, it overcomes a disadvantage of a conventional messenger in which the transfer of a file is impossible or inconvenient due t o different user environments.

Although the present invention has been described in connection with the embodim ent of the present invention illustrated in the accompanying drawings, it is not limited there to since it will be apparent to those skilled in the art that various substitutions, modification s and changes may be made thereto without departing from the scope and spirit of the inven tion.